

AUCKLAND ZOO/ TĀWHARANUI EDUCATION PROGRAMME

TERM 1 2019

TEACHER INFORMATION

Tāwharanui is the site of New Zealand's first open sanctuary integrating conservation, recreation and farming and provides a fantastic setting and opportunity to **gain an insight into many of the environmental challenges in New Zealand and learning a set of practical conservation based skills they can use to make a positive difference in their communities.**

The Auckland Zoo Tāwharanui Education Programme (TEP) launched in Term 1 2018 and is open to year 5 students and above with an application process to ensure schools who attend are committed to conservation education.

Auckland Zoo will provide all the educational resources (GPS, binoculars, torches etc). We will also supply the tents and sleeping mats for the sleepover (you bring the sleeping bags/pillow), we will also cater your dinner that night and breakfast before you leave: you bring your own morning and afternoon tea and lunch... You just need to get there!

The Tāwharanui Education Programme (TEP) will cost a set fee of \$4500 with a maximum of 70 people from your school (60 students and 10 adults). This equates to \$75 per student for 60 students... outstanding value for money compared to other education opportunities.



Overview

The environmental science focus of the field trip is delivered via a range of hands-on activities aligned with the biosecurity and biological monitoring work carried out by conservation field staff here at Tāwharanui and conservation sites across the country. This

focus allows students to gain experience and insight into many of the ecological issues we are currently facing in Aotearoa and just as importantly a new set of skills they can employ to make a positive contribution to conservation in New Zealand.

Wider mātauranga Māori content is also included to illustrate Te Ao Māori and the prominent role pūtaiao/science holds in Māori conservation practice.

Key Concepts:

- Conservation of New Zealand's biodiversity
- Mainland Island restoration – Tāwharanui as a model of innovative conservation science
- New Zealand's unique biodiversity/ taonga
- Native, endemic and introduced species
- Threats to New Zealand's biodiversity –Interdependence of living things, habitats and ecosystems
- Aspects of biosecurity on mainland and offshore islands
- Predator Free New Zealand
- Role of the modern zoo
- Sustainability
- Personal and social responsibility for action/ kaitiakitanga
- Heritage – changing relationships between people, place and environment
- Mātauranga Māori principals are delivered alongside all key concepts and not treated as a discreet topic.

Curriculum Links:

VALUES

Excellence

Innovation, inquiry and curiosity

Community and participation

Ecological sustainability

Respect

KEY COMPETENCIES

Thinking

Using language, symbols and texts

Managing self

Relating to others

Participating and contributing

PRINCIPLES

Future focus

LEARNING AREAS

Science: Nature of Science, Living World and Physical World (Technology)

Social Science: Social Studies – Place and Environment (relationship between people and environments), Continuity and Change (understand past, present and imagine possible futures)

EfS: Sustainability, Guardianship, Interdependence, Responsibility for Action, Biodiversity

Programme delivery

Arrival

Students arrive by bus at the biosecurity fenced entrance to Tāwharanui where a TEP a final biosecurity check of bags and belongings is completed. The bus then continues into the sanctuary to the TEP campsite where upon disembarking from the bus students and staff are welcomed more formally by TEP educators who then share with students the kaupapa/ purpose of their field trip to Tāwharanui: **gaining an insight into many of the environmental challenges in New Zealand and learning a set of practical conservation based skills they can use to make a positive difference in their communities.**

After the welcome, introduction and overview to the day students get the chance to have a quick morning tea (the school is responsible for supplying their own morning tea, lunch and afternoon snacks) then get their daypack sorted for the days activities.

TEP Base Camp

The main enclosed structure for education delivery is a bespoke canvas tent with provision for 70 school visitors (60 students + 10 adults). The sides of the tent can be rolled up for ventilation on hot days/ or down for shade.

Students and adults will spend the night in 6 person tents. Note: Auckland Zoo will also provide a sleeping roll for each student (on a dry ground mat) – students supply own sleeping bag and pillow.



TEP – Programme content

A variety of sessions will be delivered throughout the day and into the night.

Overview of New Zealand biogeography, biodiversity and evolution drivers

- NZ's level of biodiversity, endemism and speciation drivers
- NZ biogeography

This overview is designed to provide students with context to more fully understand and appreciate the origins and uniqueness of New Zealand's flora and fauna and why for both ecological and cultural reasons it is so important to protect.

Biosecurity: pest control theory and practice

- Pests – origins and biology
- Pest monitoring: tracking cards, chew track cards, lures, traps and trapping techniques

Mainstream conservation attention in New Zealand today is primarily focussed on pest control. It seems wherever you go people are talking about making New Zealand predator free. The TEP biosecurity session is an experiential educator led investigation of this topic that makes full use of the senses (smell, touch, taste, sight and hearing), actively engaging students in pest management theory and practice.

A further series of activities centred on the application of GPS in conservation field work are delivered.



Full biosecurity check will take place at the entrance to Tāwharanui – students modelling best practice.



Pest familiarisation and desensitisation

Hikoi: experiencing the sanctuaries habitats and ecosystems

- shore based (sandy, rocky and dune), wetland, estuarian, forest and open country.

Time is spent out in the Tāwharanui sanctuary exploring and engaging in conservation field work. Learning stations are sited along the walking trail specifically designed and located to

break the hikoi into manageable stages (physically and mentally). Hands-on engagement and exploration is encouraged at each educator led station to enable students to better process information and ideas and safeguard the session from being simply a didactic 'walk and talk' that does little to engage students.



The presence of a Marine Reserve at Tāwharanui, established first as a Marine Park in 1981, that covers much of the northern coastline (extending approximately half a nautical mile seaward) provides a magnificent setting for a marine education component complimentary to the land based content.



The relatively safe beaches and coastline is ideal for in-depth exploration of both the sandy and rocky shoreline as well as the dune systems. The same overarching emphasis applied to land based activities applies to the marine delivery: hands-on conservation science theory and practice.



Birds, bands and binoculars



Tracking card location and interpretation

Selection of conservation science activities delivered throughout the day:

- Radio telemetry tracking
- GPS: theory and field application
- Reptile: monitoring theory and techniques – Mark Release Recapture
- Invertebrate: monitoring theory and techniques, use of artificial refugia
- Bird specific
 - Application of decoy and playback to establish colonies.
 - Supplementary feeding and artificial nest boxes.
 - Banding theory, application, reading/recording.
- Plants: monitoring theory and application –transect sampling
- Marine: simple shore based sampling techniques.

The learning and depth of discussion throughout the day varies depending on the age and prior learning of the students.



Experiencing incredible native forest at Tāwharanui.



Students working out how to assemble an invertebrate monitoring device

School directed time

In mid-afternoon schools will have the opportunity to do their own thing (rest under a pohutukawa, chill on the beach or go for a swim!) or take part in a marine programme delivered by the highly skilled Experiencing Marine Reserves team. This decision is up to the school who are responsible for activities with their students for this period.

EXPERIENCING MARINE RESERVES (EMR)

The Experiencing Marine Reserves (EMR) programme empowers schools and communities by providing hands-on experiences in the ocean.

The EMR programme involves investigating marine biodiversity and local marine environments before venturing to a fully-protected marine reserve. After this experience, students are able to compare unprotected and protected areas and are supported to put their knowledge into action within the community. For more info www.emr.org.nz and/or view this video <https://youtu.be/-ysSVIQZ6gc>

Gear hire is provided by EMR for adults and students. We rely on the school's/group's ability to provide in-water adult 'supervisors' to ensure adequate ratio of 1:2 for year 8 and below and 1:4 for year 9 and above. This can be achieved by adjusting the size of groups in the water at one time etc.

The cost per session is approx. \$10 per student (dependant on total number of students etc)

Please indicate to Auckland Zoo if this is an option you are interested in participating in and final costing can then be provided.

While all this is going on TEP educators will get the barbeques out and start preparing the evening dinner – on the menu tonight: hotdogs!

Once dinner has been served and all the housework taken care of it's time to prepare for the nights activities.

Nocturnal activities

Tāwharanui is home to a range of nocturnal species: kiwi, pāteke and ruru along with a wide array of reptiles and invertebrates. Sleepovers provide the opportunity to experience these nocturnal creatures in their natural setting as well as sample the many unique sights, sounds and smells the sanctuary provides at night. Students will be entrusted with a red light torch as they follow a zoo educator into the dark, adults holding up the rear.

Another focus during our nocturnal session will be exploring the night sky from a Māori perspective. Te Whaanau Maarama: the family of light (the stars, moon, sun etc) were placed in the sky by the god Tāne, and as well as guiding Māori across the Pacific Ocean they also played a pivotal role in Māori agricultural, fishing, hunting, building – foretelling aspects of the coming seasons and weather conditions – and in ceremony, language and culture. Students will explore how Māori astronomy is being revitalised in the modern world (the increasing importance of Matariki for example) and its practical value to all New Zealanders.

Upon returning to TEP BASE CAMP students will have a chance to share their thoughts and feelings about Tāwharanui after dark.

School staff then take over and will be responsible for their students overnight and the following morning on waking.

Day 2: breakfast - tidy – haere rā

TEP staff have prepared the tables and cereal awaits students and staff.

School staff oversee a thorough tidy of the tent and surrounding area, ensure all students have packed up their gear and are ready to depart the TEP site by 8:45am.

TEP educators are on hand to farewell the school and wish them all the best for the conservation projects they will be working on as a consequence of participating in the Tāwharanui Education Programme.

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What schools are saying about the Tāwharanui Education Programme!

- What a great trip. Seriously, the number of emails, phone calls and positive comments from parents, staff and students has been phenomenal... amazing buzz here.

Sean O'Toole: Year 9/10 Dean - Waiheke High School

- You guys did an amazing job with all of your knowledge. It can be a tough age to keep engaged but the kids responded so well. That is a credit to you all. The passion you have for nature is infectious and I believe these experience can shape our students' perspective of their amazing environment.

Mirren Frederickson: Year 8 teacher - Mahurangi College

- Thank you so much for the opportunity to have a Tāwharanui experience, we all, the children, parents and teachers loved every minute of it !!
That night walk was certainly extra special!!

Susan Milne: Associate Principal - St Francis Catholic School

- Would just like to add to Susan's thanks – it was a wonderful two days. i learned so much from Hohepa. At assembly on Thursday I asked the children what they enjoyed the most expecting them to say the swimming but all they spoke about were the different birds they had seen.

The opportunity for our city children to be free on the beach was amazing. We saw pipi burrowing back into the sand, crabs in shells scuttling everywhere. Star fish and so much more.

Thanks for sharing your passion for the environment with us all.

Marianne Booth: Principal – St Francis Catholic School

Mahuru 5 2019

- We would like to thank you and your team for the amazing learning opportunities you have given our students over the years through the Zoo, Rotoroa and Tāwharanui. The children gain such valuable insights by their experiences with you and it provides them with authentic contexts. You all manage to really engage the children in the activities and conversations.

Inge Millard: Deputy Principal – Windy Ridge School